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BUREAU OF MINES
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COAL, PETROLEUM, NATURAL GAS, AND ELECTRICITY IN THE UNITED STATES, 1929-40

BY

JOHN R. BRADLEY

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UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

COAL, PETROLEUM, NATURAL GAS, AND ELECTRICITY IN THE UNITED STATES, 1929-40[1]

By John R. Bradley[2]

CONTENTS

	Page
Introduction and purpose of study	1
Coal production - shifts in producing centers and uses	3
Petroleum production - shifts in producing and consuming centers and uses	3
Natural gas - shifts in producing and consuming centers and uses	4
Electricity - capacity and production by power sources	6
Fuels used by manufacturing industries	8
Statistical table and graphs	10
Resources of energy	26

INTRODUCTION AND PURPOSE OF STUDY

The available supply of fuel and power is a subject of importance at all times and particularly at this time. The following brief survey of fuel and power in the United States appraises the extent of the several primary sources of energy; the approximate monthly demand, 1929-40; the chief centers of production and consumption; and shifts in the principal uses from 1929 to recent years. The period covers the boom year 1929, the years of the great depression, the more normal year 1937, the recession in 1938, the year 1939, and 1940 (which was affected by armament programs). In some instances, the data for 1939 and 1940 are preliminary.

The four primary sources of fuel and power are coal, petroleum, natural gas, and water power. Wood fuel, important in some regions, and foreign trade in natural gas and hydroelectricity represent a relatively small part of the energy supply and are not considered in this study. The tonnages shown are in terms of coal, based upon the calorific or B. t. u. equivalents of the several sources of power. In practice, the usable heat or energy varies according to the type of equipment available for its use. For example, the efficiency of turbine water wheels and internal-combustion engines is much higher than that of steam plants and household-heating devices.

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2/ Coal Economics Division, Bureau of Mines.

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Raw materials, power, and economic organization are the foundations of industry. As the fundamental purpose of industry is to procure or recover raw materials and process them for human use, industrial activity seldom extends much beyond the power necessary for such industrial processes. Thus sources of power set the boundary and range of industry. Virtually all regions have some resources of raw material, but without fuel and power the value of the raw material is limited.

The predominant position of the United States in the industrial world is due chiefly to the quantity and variety of its raw material and the extent and accessibility of its power.

Typically the United States accounts for about one-third of the world's coal output, almost two-thirds of the petroleum produced, about 89 percent of the natural gas marketed, and approximately 28 percent of developed water power.

The annual production of coal, oil, natural gas, and water power in the United States, in terms of coal, approximates 1,000,000,000 tons. Without the opening of new mines, the sinking of new wells, or the harnessing of additional streams, the annual output of fuel and power can be considerably increased. The present production capacity of the Nation is estimated at about one-half the world output of fuel and power.

The several domestic sources of energy are closely linked with certain industrial developments. For example, coal in the form of coke is essential to the metallurgical industries; hydroelectricity is closely associated with the electrochemical and electrometallurgical industries; and the use of gasoline in internal-combustion engines has, within a few decades, resulted in the establishment of a major manufacturing industry and greatly affected the social and economic structure of the country.

Coal, petroleum, natural gas, and water power available for consumption during the period 1929-40 averaged 754,000,000 net tons (in terms of coal) was at a high of 884,000,000 net tons in 1929, declined steadily to a low of 592,000,000 tons in 1932, and increased almost as steadily to 879,000,000 tons in 1940. It is estimated that production in 1941 will exceed the 1929 high.

Although coal continues to be the dominant source of power it has been losing ground to competitive fuels and to water power.

Of the total fuel and power available, in terms of coal, the respective importance of coal, petroleum, natural gas, and water power has been as follows: In the peak year 1929 - 66, 26, 5, and 3 percent; in the depression year 1932 - 60, 30, 6, and 4; and in 1940 - 54, 35, 7, and 4 percent, respectively.

The magnitude of the mineral-fuel industries of the United States is indicated by the value of output at point of production, which in 1939 totaled $2,306,459,000. Bituminous coal at the mine was valued at $732,534,000,

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anthracite at the breaker at $187,175,000, and petroleum and natural gas at the wells at $1,265,000,000 and $121,750,000, respectively.

COAL PRODUCTION - SHIFTS IN PRODUCING CENTERS AND USES

Production of bituminous coal and lignite declined from 535,000,000 net tons in 1929 to 393,000,000 tons in 1939. In the respective years, four States - Pennsylvania, West Virginia, Illinois, and Kentucky - supplied 75.4 and 73.6 percent of the total output (Pennsylvania 26.8 and 23.5 percent and West Virginia 25.9 and 27.5 percent). Production of Pennsylvania anthracite in 1929 and 1939 was 73,828,000 and 51,487,000 net tons, respectively, a decrease of 30.3 percent.

A comparison of the tonnage of bituminous coal used in 1929 and 1939 shows that calculated consumption (based upon production plus imports minus exports and foreign bunkers plus or minus net changes in consumers' stocks) was 515,268,000 and 376,502,000 net tons, respectively. Colliery fuel, electric-power utilities, locomotive fuel (class I roads), and coal used in the production of beehive and byproduct coke represented 48.6 and 49.5 percent of the totals. Coal consumed by electric-power utilities increased from 8.7 to 12.3 percent, use of colliery fuel declined from 0.9 to 0.7 percent, consumption of locomotive fuel decreased from 22.1 to 19.6 percent, and coal used in the production of coke was 16.9 percent in both years.

Whereas the percentage of coal consumed by these industries as related to total consumption in the respective years was virtually the same, the tonnage consumed declined from 250,281,000 tons in 1929 to 186,380,000 tons in 1939.

PETROLEUM PRODUCTION - SHIFTS IN PRODUCING AND CONSUMING CENTERS AND USES

Domestic production of crude petroleum was 1,007,323,000 barrels in 1929 compared with 1,264,962,000 barrels in 1939, an increase of 25.6 percent. In these years the combined production of Texas, Oklahoma, and California represented 83.8 and 68.6 percent, respectively, of national production (Texas, 29.5 and 38.2 percent; Oklahoma, 25.3 and 12.6 percent; and California, 29.0 and 17.7 percent). New centers of production are Illinois, Louisiana, and New Mexico; the output of these three States increased 197,492,000 barrels in 1939 over the 1929 figure.

Sales of all fuel oils in the United States, including oil for company use and excluding bunker oil for vessels in foreign trade, were 332,144,000 barrels in 1929 and 419,907,000 barrels in 1939, an increase of 87,763,000 barrels or 26.4 percent. In 1929 and 1939, respectively, the Pacific Coast region took 29.7 and 20.5 percent, the South Central region 27.5 and 17.9 percent, and the Middle Atlantic region 19.9 and 28.3 percent, thus these three regions accounted for 77.1 and 66.8 percent of the 1929 and 1939 totals. Sales of distillate oils (Nos. 1-4) for domestic use, included in the preceding figures, were 19,580,000 barrels in 1929 and 97,131,000 in 1939, an increase of 77,551,000 barrels or 396.1 percent. The Pacific

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Coast, South Central, and Middle Atlantic regions accounted for 44.4 and 50.3 percent, respectively, of the distillate oils sold in 1929 and 1939, of which 35.7 and 39.8 percent were sold in the Middle Atlantic region. The increase in sales of distillate oils represents the equivalent of about 17,700,000 tons of coal.

Sales of fuel oil by uses showed radical changes in 1939 compared with 1929. Total sales increased 18.9 percent. The most remarkable changes were in the use of heating oils (Nos. 1-6), which increased 264.3 percent, and oil for transportation (rail and water), which declined 16 percent. Sales to the United States Navy, Army, and Coast Guard increased 52.2 percent; sales to gas and electric-power plants, 1.7 percent; and sales for miscellaneous uses, 24.6 percent. Fuel for company use declined 11.7 percent and oil for manufacturing industries, smelters, and mines, 4.9 percent. Details are given in the following table.

Fuel-oil distribution by principal uses, thousands of barrels, 1929 and 1939 1/

United States Distribution	1929	1939
Railroads	76,848	63,235
Vessels (bunkers) including tankers	92,870	79,254
Gas and electric power plants	31,511	32,039
Smelters and mines	7,050	67,043
Manufacturing industries	63,431	
Heating oils	37,400	136,232
Range fuel 2/	(3/)	3,220
Navy, Army, etc.	8,192	12,472
Oil-company fuel	55,559	49,045
Miscellaneous	11,561	14,403
Total	384,422	456,943

1/ Petroleum Economics Division, Bureau of Mines.
2/ Fuel oil sold as range oil.
3/ Not available.

NATURAL GAS - SHIFTS IN PRODUCING AND CONSUMING CENTERS AND USES

Production of natural gas, which approximates consumption, increased from 1,917,693,000,000 cubic feet in 1929 to 2,476,756,000,000 cubic feet in 1939, or 29.2 percent. In these years Texas supplied 24.2 and 39.5 percent; Oklahoma, 18.7 and 10.1 percent; California, 17.8 and 14.1 percent; and Louisiana, 13.6 and 11.9 percent. These four States accounted for 74.3 and 75.6 percent of the yearly totals.

Consumption of natural gas in these States, including receipts from other States, represented 69.8 percent of total consumption in 1929 and 62.3 percent in 1939, broken down as follows: Texas, 24.3 and 32.2 percent; California, 17.8 and 14.1 percent; Oklahoma, 17.2 and 9.3 percent; and Louisiana, 10.5 and 6.7 percent.

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The extension of natural-gas trunk lines, for delivery of gas from the producing centers to other States, is indicated by the increases in consumption as related to production in the various States. For example, in 1929 the excess production over consumption in two States, Texas and Louisiana, was 59,763,000,000 cubic feet compared with 312,569,000,000 cubic feet in 1939, or the coal equivalent of 2,452,318 and 12,826,000 tons, respectively. Details of production and consumption in 1929 and 1939 are presented in the following table.

Natural gas, millions of cubic feet[1]

	Production[2]		Consumption[3]	
	1929	1939	1929	1939
Alabama	(4)	-	(4)	20,093
Arizona	(4)	-	(4)	16,643
Arkansas	19,928	10,107	39,758	35,673
California	342,214	348,361	342,214	348,361
Colorado	2,787	2,015	14,362	21,978
District of Columbia	(4)	-	(4)	4,069
Florida	(4)	-	(4)	1,658
Georgia	(4)	-	(4)	16,296
Illinois	2,983	2,746	3,139	77,134
Indiana	1,012	791	2,365	30,795
Iowa	(4)	-	(4)	21,732
Kansas	38,469	80,556	75,476	85,865
Kentucky	27,588	47,771	19,444	16,563
Louisiana	261,138	294,370	200,777	164,667
Maryland	(4)	-	(4)	4,907
Michigan	4,526	10,726	4,526	27,316
Minnesota	(4)	-	(4)	17,262
Mississippi	90	14,527	574	14,207
Missouri	324	538	15,078	47,157
Montana	9,659	23,178	9,372	19,765
Nebraska	(4)	-	(4)	19,654
New Mexico	3,054	60,284	1,021	38,981
New York	8,387	29,222	18,192	46,877
North Dakota	(4)	76	(4)	1,607
Ohio	57,936	36,469	126,631	114,720
Oklahoma	357,893	250,875	329,295	231,005
Pennsylvania	101,951	93,882	122,876	109,746
South Dakota	99	10	1,717	5,712
Tennessee	25	8	5,395	15,558
Texas	464,928	979,427	465,526	796,561
Utah	693	4,854	1,539	13,172
Virginia	(4)	60	(4)	788
Washington	(4)	63	(4)	63
West Virginia	167,333	159,226	73,856	69,394
Wyoming	44,648	26,614	43,500	17,786
Other 4/	28	-	858	-
	1,917,693	2,476,756	1,917,451	2,473,765

1/ Minerals Yearbook 1930, p. 462, and 1941, p. 1034.
2/ Production (marketed production) excluding gas for repressuring and for waste.
3/ Consumption, including receipts from other States or production plus imports minus exports.
4/ Not shown separately for 1929 but (if any) included in "Other."

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Whereas the consumption of natural gas increased from 1,941,644,000,000 cubic feet in 1930 to 2,473,765,000,000 cubic feet in 1939, or 27.4 percent, the percentages used for certain purposes remained almost the same each year - for domestic use 16 percent, commercial use 4 or 5 percent, and industrial use 79 or 80 percent. (The year 1930 is given, as there is no break-down between consumption for domestic and commercial purposes before 1930). Between 1930 and 1939 consumption for industrial purposes - defined as for field use, carbon black, petroleum refineries, electric public utilities, portland-cement plants, and other industrial uses - increased 26 percent. There were slight declines in the quantity used in the field, at petroleum refineries, and at portland-cement plants. Consumption for the manufacture of carbon black increased 30 percent, for electric public utilities 59 percent, and for other industrial uses 93 percent.

ELECTRICITY - CAPACITY AND PRODUCTION BY POWER SOURCES

Reports of the Federal Power Commission covering about 99 percent of the industry show that the installed capacity of electric generating plants in the United States increased from 31,622,591 kw. in 1929 to 40,317,924 kw. in 1939, or 27.5 percent. Steam plants represented 73.2 and 69.6 percent of the totals; water-power plants, 25.8 and 28.3 percent; and internal-combustion plants, 1.0 and 2.1 percent.

Of the installed capacity of generating plants by regions, the East North Central States accounted for the largest percentage by steam (92 percent in 1929 and 91.3 in 1939) and the Mountain States for the smallest (28.5 and 22.4 percent, respectively); however, the greatest percentage increase by steam (1939 over 1929) took place in the Mountain region (70.6 percent). Water-power capacity was highest in the Mountain region (68.6 percent in 1929 and 73.3 percent in 1939) and lowest in the West South Central region (1.4 and 6.8 percent, respectively). The greatest percentage increase in capacity of water-power plants (1939 over 1929) was in the West South Central States (614.6 percent), whereas in the Mountain region the increase was only 132.4 percent. The capacity of internal-combustion engines is only a small percentage of total electric-power capacity; however, several drastic changes were shown in the percentages of increase by regions, 1939 over 1929. For example, in the Pacific region the increase was 1,406.8 percent, and more than 200-percent increases are shown in the East North Central, West North Central, and Mountain regions.

A break-down by types of power and capacity by geographic divisions is given in the following table.

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Installed capacity of plants generating electricity in the United States, by geographic divisions, 1929-39, in kilowatts[1]

Geographic divisions	Total	Hydro-electric	Steam	Internal-combustion
1929				
New England	2,615,710	569,538	2,040,265	5,907
Middle Atlantic	7,882,797	1,269,470	6,595,570	17,757
East North Central	7,549,068	581,938	6,945,139	21,991
West North Central	2,178,645	310,640	1,776,052	91,953
South Atlantic	3,892,337	1,602,633	2,254,462	35,242
East South Central	1,558,350	821,227	721,000	16,123
West South Central	1,409,088	19,510	1,284,776	104,802
Mountain	992,104	680,396	282,879	28,829
Pacific	3,544,492	2,311,127	1,229,550	3,815
United States Total	31,622,591	8,165,479	23,129,693	326,419
1939				
New England	3,028,280	851,762	2,163,740	12,778
Middle Atlantic	9,746,991	1,571,583	8,141,117	34,291
East North Central	9,069,488	709,679	8,278,588	81,221
West North Central	3,157,538	532,136	2,327,360	298,042
South Atlantic	4,843,202	2,060,622	2,709,092	73,488
East South Central	2,001,627	1,221,149	755,015	25,463
West South Central	2,041,071	139,422	1,721,621	180,028
Mountain	2,156,800	1,581,310	482,473	93,017
Pacific	4,272,927	2,747,502	1,467,942	57,483
United States Total	40,317,924	11,415,165	28,046,948	855,811

1/ Federal Power Commission.

Two-thirds of the electric power produced in 1939 was from fuels and one-third from hydroelectric plants. Of the total of 130,336,050,000 kw.-hr., fuels accounted for 86,314,419,000 kw.-hr. - 27,112,291,000 in the East North Central States and 25,634,519,000 in the Middle Atlantic States. Of the 44,021,631,000 kw.-hr. of hydroelectricity produced, the Pacific States accounted for 12,187,604,000, the Middle Atlantic States for 7,335,433,000, the Mountain States for 6,017,185,000, and the South Atlantic States for 5,561,993,000 kw.-hr.

Gross electric energy available in 1939 (with allowance for exports and imports and losses in transmission) totaled 131,595,891,000 kw.-hr., of which 18,498,349,000 kw.-hr. were available within the State of New York, 12,254,144,000 in Pennsylvania, 11,853,796,000 in California, and 9,026,270,000 in Illinois; these four States accounted for 39.2 percent of the total.

A shift of some importance occurred in the use of fuels for the generation of electricity in the period 1929-39. The use of coals, fuel oil, and gas, in terms of coal, increased from 51,886,000 net tons to 58,053,000, or 11.9 percent. However, in 1929 and 1939, respectively, coals supplied 86.6 and 79.6 percent of the total, fuel oil 4.5 and 6.9 percent, and gas 8.9 and 13.5 percent.

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The following table shows fuels consumed in the generation of the electricity in the United States, by geographic divisions.

Fuel consumed in the generation of electricity in the United States, by geographic divisions, 1929 and 1939[1]

Geographic divisions	Coal,[2] net tons		Oil, barrels		Gas, M cubic feet	
	1929	1939	1929	1939	1929	1939
New England	3,139,612	2,239,502	1,682,101	5,282,179	-	-
Middle Atlantic	14,069,316	14,464,022	327,083	5,024,595	91,451	4,451,535
East North Central	17,000,677	17,778,974	80,070	333,638	4,070,810	16,003,212
West North Central	4,038,159	3,197,717	946,484	1,236,229	11,742,848	41,571,477
South Atlantic	3,820,593	5,310,439	2,262,388	3,541,332	153,082	3,680,694
East South Central	867,262	1,517,350	97,778	90,589	3,425,106	7,458,003
West South Central	1,220,633	929,402	930,298	679,319	55,391,216	85,301,177
Mountain	681,783	775,719	422,144	630,481	832,071	9,503,445
Pacific	95,772	10,071	3,436,928	605,094	26,914,211	23,161,397
Total	44,933,807	46,223,196	10,185,279	17,423,456	112,620,795	191,130,940

1/ Federal Power Commission
2/ Coke and lignite included but not converted to terms of coal.

Foreign trade in electric energy. - Imports of electric energy from 1921 to 1939, virtually all from Canada, ranged from a low of 885,259,000 kw.-hr. in 1921 to a high of 1,918,668,000 kw.-hr. in 1939, in which year the coal equivalent was about 1,314,287 tons. Exports of electric energy have been unimportant and have been chiefly to Mexico. In 1939, 4,236,000 kw.-hr. were exported to Canada and 14,081,000 kw.-hr. to Mexico.

FUELS USED BY MANUFACTURING INDUSTRIES

Reports of the Bureau of the Census show 210,959 manufacturing establishments in the United States in 1929 and 183,277 in 1939 and fuel consumed by these industries as the equivalent of 351,405,623 and 288,570,719 tons of coal respectively, a decline of 17.9 percent.

The following tables give fuels consumed in the manufacturing industries in 1929 and 1939 by kinds and in 1939 by kinds and geographic divisions.

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Fuels consumed by manufacturing industries in the United States, in terms of Coal, 1929-39, net tons

Kinds of fuel	1929	1939
Anthracite	9,452,190	5,015,857
Bituminous coal...	196,779,833	137,771,432
Coke.....	72,739,624	50,164,796
Natural gas	16,899,472	36,185,071
Manufactured gas..	25,577,508	28,283,274
Mixed gas.....	(1/)	538,499
Fuel oil 2/.....	29,956,996	30,611,790
Total	351,405,623	288,570,719

1/ Not included for 1929
2/ Including crude oil and gas oils used as fuel. Conversion factors shown in the following table.

Fuels consumed in manufacturing establishments in the United States in 1939 in terms of coal, by geographic division, thousands of net tons 1/

Geographic division	Anthracite	Bituminous coal	Coke 2/	Fuel oil 3/	Natural 4/ gas	Manufactured and mixed gas 5/	Total fuel in terms of coal
New England	289	7,152	337	3,556	-	172	11,506
Middle Atlantic	4,041	43,914	17,456	9,786	3,670	10,788	89,655
East North Central	370	54,905	21,167	7,143	4,682	11,342	99,609
West North Central	84	4,785	530	1,153	2,493	424	9,469
South Atlantic	157	13,514	3,750	2,491	1,476	1,970	23,358
East South Central	32	10,388	5,743	502	1,223	1,366	19,254
West South Central	26	212	124	2,036	17,631	2,108	22,137
Mountain	10	2,410	940	665	1,728	284	6,037
Pacific	7	491	117	3,280	3,282	368	7,545
Total	5,016	137,771	50,164	30,612	36,185	28,822	288,570

1/ Bureau of the Census, U. S. Department of Commerce. Totals converted to coal equivalents by Bureau of Mines.
2/ Coke converted to terms of coal at 0.70 ton of coke = 1 ton of coal.
3/ Fuel oil converted to terms of coal at 4.37 barrels = 1 ton of coal.
4/ Natural gas converted to terms of coal at 24,370 cubic feet = 1 ton of coal.
5/ Manufactured and mixed gas converted to terms of coal at 45,565 cubic feet = 1 ton of coal.

Manufacturing industries, the largest group of consumers of mineral fuels, also use a large quantity of purchased electric energy. In 1937 (the latest year for which data are available) the total was 45,949,480,859 kw.-hr., of

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which perhaps one-third was generated by water power. No data are available on the use of fuels by homes, hotels, apartment houses, and office buildings. This group perhaps ranks next in importance to manufacturing industries, followed by railroads which in 1939 consumed fuels equivalent to 89,985,000 net tons of coal, 14,470,000 tons representing the fuel-oil equivalent.

STATISTICAL TABLE AND GRAPHS

The following table and graphs (figs. 1 and 2) are based upon the calorific value of the several fuels. When the fuels are considered from the standpoint of their use value to the consumer, the trends in use may be better understood. In some instances use is based upon economy, in others on convenience or the general desirability of an improved product. To generalize, coal may be said to be an all-purpose fuel; petroleum products are useful chiefly in the transport industries; and natural gas is used by industry and for domestic and commercial heating.

The table shows the quantity of available coal, production of crude petroleum, sales of natural gas, and hydroelectric power (in their own units of measurements and in terms of coal) in the United States, by months, 1929 through 1940. These figures, however, should not be weighed against one another to determine the competitive position of these commodities in the production of power, as comparable data are not available. Typically, only about 38 percent of crude runs to stills in the United States result in fuel and gas oils, and exports of fuel oils and net exports of crude oil were about 6 percent of production in recent years. The average over the 1929-40 period was about 4 percent. Therefore, less than one-half of the output of petroleum should be considered as competing directly with coal. Likewise, sales of natural gas in the United States, as shown in the tables, are not comparable with total consumption, as natural gas used in the field by the producer and that for certain other uses, such as the production of carbon black, are not included in the figure covering sales. Apparently about one-half of the output of natural gas competes directly with coal.

The outstanding features shown by a comparison of the data included in these tables are the commanding position of coal, the highly seasonal nature of the demand under both normal or abnormal conditions, and the increasing competition with coal of oil, natural gas, and water power. In this connection, attention is called to the fact that in April 1939 the coal equivalent of the petroleum produced was greater than the coal available in the same month, owing to partial suspension of operations in the bituminous-coal industry.

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Fuel and power in the United States, thousands of net tons

Compiled by I. M. Whiteside, Coal Economics Division, Bureau of Mines.

1929	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	58,454	82,054	18,777	50,751,100	52,118,400	4,221	2,577,901	2,178	83,630
February...	54,715	75,456	17,267	52,898,200	53,836,400	4,380	2,332,744	1,971	78,333
March.....	45,038	82,463	18,870	44,933,500	50,206,000	3,904	3,021,140	2,552	70,364
April.....	44,059	80,412	18,401	33,815,600	47,944,900	3,355	3,157,703	2,668	68,483
May.....	46,867	84,499	19,336	29,927,800	47,571,200	3,180	3,356,143	2,836	72,219
June.....	41,245	83,407	19,086	23,475,100	45,203,700	2,818	2,946,585	2,490	65,639
July.....	41,835	91,309	20,895	17,308,100	43,244,200	2,485	2,938,895	2,483	67,698
August.....	47,340	92,165	21,090	16,079,800	46,058,200	2,550	2,719,078	2,298	73,278
September..	48,426	87,453	20,012	17,749,000	45,677,300	2,603	2,369,830	2,003	73,044
October....	55,880	88,430	20,236	23,168,800	51,951,700	3,082	2,614,991	2,210	81,408
November...	49,298	78,758	18,022	36,018,400	55,256,000	3,745	2,530,842	2,139	73,204
December...	51,847	80,917	18,516	47,933,600	57,909,000	4,343	2,624,893	2,218	76,924
Total.	585,004	1,007,323	230,508	394,059,000	596,977,000	40,666	33,190,745	28,046	884,224

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Fuel and power in the United States, thousands of net tons - continued

1930	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	57,403	79,633	18,223	56,242,500	57,714,100	4,676	2,806,216	2,273	82,575
February...	46,259	74,290	17,000	55,523,100	55,958,300	4,574	2,580,108	2,090	69,923
March.....	40,955	78,226	17,901	45,185,600	53,425,000	4,046	3,124,436	2,531	65,433
April.....	41,707	77,483	17,731	40,971,100	53,382,200	3,872	3,156,969	2,557	65,867
May.....	40,349	80,528	18,427	29,243,600	46,100,400	3,092	3,105,512	2,515	64,383
June.....	37,514	77,060	17,634	23,609,000	44,705,600	2,803	2,947,631	2,388	60,339
July.....	37,746	76,922	17,602	17,799,200	42,297,800	2,466	2,769,295	2,243	60,057
August.....	39,462	74,831	17,124	16,210,300	42,599,600	2,413	2,412,705	1,954	60,953
September..	41,534	71,216	16,296	17,767,100	43,221,000	2,503	2,190,955	1,775	62,108
October....	49,373	72,893	16,680	23,120,600	45,986,000	2,836	2,216,776	1,796	70,685
November...	41,390	67,957	15,551	36,819,000	46,643,600	3,425	2,142,344	1,735	62,101
December...	44,465	66,972	15,325	47,189,900	48,351,400	3,920	2,284,777	1,850	65,560
Total.	518,157	898,011	205,494	409,681,000	580,385,000	40,626	31,737,724	25,707	789,984

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Fuel and power in the United States, thousands of net tons - continued

1931	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	45,751	65,737	15,043	58,472,200	48,249,500	4,379	2,264,999	1,755	66,928
February...	37,253	60,540	13,854	50,712,000	44,111,400	3,891	2,082,387	1,614	56,612
March.....	39,178	69,429	15,888	47,968,900	44,220,500	3,783	2,551,817	1,978	60,827
April.....	35,994	72,860	16,673	43,682,500	44,964,700	3,638	3,040,422	2,356	58,661
May.....	31,333	76,822	17,579	33,750,400	39,274,500	2,996	3,048,529	2,363	54,271
June.....	31,740	75,011	17,165	24,060,700	37,974,100	2,545	2,795,332	2,166	53,616
July.....	32,419	78,210	17,897	17,424,900	37,888,700	2,270	2,660,035	2,062	54,648
August.....	32,253	68,014	15,564	16,527,300	36,738,100	2,138	2,375,330	1,841	51,846
September..	33,802	64,378	14,732	18,150,000	38,889,400	2,341	2,114,785	1,639	52,514
October....	39,925	73,297	16,772	21,921,400	41,475,900	2,601	1,979,463	1,534	60,832
November...	32,983	73,456	16,809	32,046,700	41,977,300	3,038	2,032,665	1,575	54,405
December...	34,483	73,327	16,779	44,657,000	43,081,900	3,600	2,634,099	2,041	56,903
Total.	427,114	851,081	194,755	409,374,000	498,896,000	37,270	29,579,863	22,924	682,063

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Fuel and power in the United States, thousands of net tons - continued

1932	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	33,767	67,014	15,335	51,953,900	40,120,800	3,778	3,017,081	2,264	55,144
February...	32,545	62,512	14,305	50,868,700	37,953,400	3,645	2,897,629	2,173	52,668
March.....	37,485	67,456	15,436	48,503,200	36,816,000	3,501	3,016,727	2,263	53,685
April.....	26,616	67,915	15,541	40,749,500	36,146,200	3,155	3,043,279	2,282	47,594
May.....	21,957	68,854	15,756	29,023,500	34,778,300	2,618	2,964,130	2,223	42,554
June.....	20,486	65,144	14,907	21,337,300	35,959,200	2,351	2,633,932	1,975	39,719
July.....	20,171	66,655	15,253	17,180,800	32,025,800	2,019	2,639,381	1,979	39,422
August....	25,113	66,568	15,233	16,023,700	33,349,700	2,026	2,536,992	1,903	44,275
September..	29,727	65,518	14,993	17,344,000	35,115,200	2,153	2,384,777	1,789	48,662
October....	35,927	65,598	15,011	22,975,600	35,905,500	2,416	2,667,685	2,001	55,355
November...	32,934	63,630	14,561	34,068,400	38,990,900	2,998	2,808,520	2,106	52,599
December...	36,481	58,295	13,339	47,712,400	39,108,000	3,563	2,711,724	2,033	55,416
Total.	353,209	785,159	179,670	397,741,000	436,269,000	34,223	33,321,857	24,991	592,093

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Fuel and power in the United States, thousands of net tons - continued.

1933	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commerical heating M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	31,743	65,159	14,910	52,204,500	36,362,700	3,634	2,910,374	2,139	52,426
February...	33,451	61,252	14,016	49,297,000	38,666,600	3,609	2,594,321	1,907	52,983
March.....	30,226	75,185	17,205	44,026,200	35,658,500	3,270	2,966,758	2,181	52,882
April.....	22,954	65,709	15,036	36,139,500	36,301,100	2,972	3,053,626	2,244	43,206
May.....	24,655	86,638	19,826	28,358,700	36,579,100	2,665	3,349,984	2,462	49,608
June.....	27,749	84,386	19,310	20,558,300	38,170,300	2,410	2,980,113	2,190	51,659
July.....	30,464	85,321	19,524	16,385,200	40,446,200	2,332	2,776,018	2,040	54,360
August.....	32,843	85,485	19,562	15,463,200	42,230,600	2,367	2,865,069	2,106	56,878
September..	31,101	78,321	17,922	17,283,400	42,738,800	2,463	2,858,566	2,101	53,587
October....	34,948	76,077	17,409	21,316,000	46,036,500	2,764	2,565,399	1,886	57,007
November...	33,522	69,966	16,011	32,148,300	48,485,000	3,309	2,460,611	1,809	54,651
December...	34,919	72,157	16,512	40,886,700	46,645,600	3,592	2,677,223	1,968	56,991
Total.	368,575	905,656	207,243	374,067,000	488,321,000	35,387	34,058,562	25,033	636,238

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Fuel and power in the United States, thousands of net tons - continued

1934	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	40,103	27,017	16,480	48,995,000	46,276,400	3,909	2,943,036	2,163	62,655
February...	40,334	65,383	14,962	48,710,100	49,099,200	4,013	2,276,211	1,673	61,032
March.....	42,385	75,426	17,260	48,359,300	48,473,900	3,973	3,036,878	2,232	65,850
April.....	29,637	75,645	17,310	38,259,200	48,031,700	3,541	3,453,221	2,538	53,026
May.....	31,070	79,966	18,299	27,094,800	47,775,200	3,072	3,192,529	2,347	54,788
June.....	28,070	79,636	18,223	20,642,900	48,272,700	2,828	2,666,174	1,960	51,081
July.....	26,235	81,339	18,613	16,741,800	47,195,400	2,624	2,569,359	1,889	49,361
August.....	29,197	79,105	18,102	15,773,700	49,042,000	2,660	2,466,973	1,813	51,772
September..	29,617	75,759	17,336	18,159,600	49,975,000	2,796	2,377,279	1,747	51,496
October....	35,627	76,593	17,527	22,237,500	51,656,400	3,032	2,672,612	1,964	58,150
November...	33,121	72,399	16,567	31,719,000	54,279,000	3,529	2,912,967	2,141	55,358
December...	37,508	74,797	17,116	45,781,100	53,530,100	4,078	3,145,933	2,312	61,014
Total.	402,954	908,065	207,795	382,474,000	593,667,000	40,055	33,713,222	24,779	675,583

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Fuel and power in the United States, thousands of net tons - continued

1935	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	43,758	78,720	18,014	52,225,700	52,522,600	4,298	3,201,969	2,337	68,407
February...	38,259	72,802	16,660	51,604,400	52,195,500	4,259	2,916,910	2,129	61,307
March.....	35,149	81,650	18,684	45,762,800	50,449,700	3,948	3,493,245	2,550	60,331
April.....	27,560	78,723	18,014	37,916,400	50,287,200	3,619	3,539,638	2,584	51,777
May.....	30,998	82,564	18,894	31,787,500	49,882,500	3,351	3,646,446	2,662	55,905
June.....	30,194	82,652	18,913	24,645,400	48,383,400	2,997	3,373,652	2,463	54,567
July.....	25,172	85,709	19,613	18,574,700	46,763,500	2,763	3,514,069	2,565	50,113
August.....	28,693	85,032	19,458	16,757,100	53,742,500	2,893	3,253,781	2,375	53,419
September..	28,605	84,453	19,327	18,809,500	55,483,800	3,049	2,951,082	2,154	53,135
October....	43,012	88,577	20,269	24,591,100	59,291,900	3,442	2,792,447	2,038	68,761
November...	35,624	86,752	19,852	36,608,800	61,711,300	4,035	3,169,408	2,314	61,825
December...	41,607	88,957	20,356	49,564,600	62,244,100	4,588	3,181,505	2,323	68,874
Total.	408,631	996,596	228,054	408,848,000	644,958,000	43,242	39,034,152	28,494	708,421

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Fuel and power in the United States, thousands of net tons - continued.

1936	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January...	47,981	88,781	20,316	57,966,500	62,532,200	4,945	3,233,422	2,328	75,570
February...	50,294	82,221	18,815	66,723,100	65,313,300	5,439	2,794,170	2,011	76,559
March.....	35,626	90,696	20,754	50,639,200	60,253,600	4,550	3,650,752	2,635	63,565
April.....	35,532	90,709	20,757	41,570,200	61,783,900	4,241	3,327,621	2,799	63,329
May.....	31,225	93,928	21,494	30,004,300	60,036,100	3,697	3,739,471	2,728	59,144
June.....	32,270	90,222	20,646	21,543,300	61,139,900	3,393	3,163,642	2,278	58,587
July.....	34,056	92,245	21,109	17,932,300	62,562,300	3,303	3,034,657	2,135	60,653
August.....	33,985	95,068	21,759	16,830,200	66,217,800	3,408	2,963,262	2,134	61,286
September..	38,104	91,167	20,862	17,756,900	68,330,900	3,533	2,932,082	2,111	64,610
October....	44,689	95,776	21,916	24,035,500	69,104,700	3,822	3,273,568	2,361	72,738
November...	42,856	91,131	20,854	39,131,500	71,031,800	4,520	3,249,617	2,340	70,570
December...	47,206	97,723	22,362	52,459,000	70,471,500	5,044	3,528,910	2,541	77,153
Total.	473,824	1,099,687	251,644	436,652,000	779,273,000	49,895	39,516,274	28,451	803,814

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Fuel and power in the United States, thousands of net tons - continued.

1937	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[3] M kw.-hr.	Hydroelectric power[3] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	44,724	98,537	22,548	59,819,600	66,411,500	5,180	3,867,591	2,766	75,218
February...	42,557	93,061	21,295	61,234,900	70,650,300	5,412	3,515,686	2,513	71,777
March.....	49,412	106,833	24,447	53,396,800	71,256,400	5,115	3,916,677	2,800	81,774
April.....	37,052	105,127	24,056	50,135,000	72,677,300	5,039	4,189,256	2,995	69,142
May.....	34,338	110,959	25,391	32,203,200	70,359,500	4,208	4,424,051	3,163	67,100
June.....	35,170	106,068	24,272	23,189,900	69,774,000	3,815	3,806,630	2,722	65,979
July.....	33,735	110,783	25,350	19,251,800	70,812,300	3,707	3,431,249	2,453	65,245
August.....	35,269	115,413	26,410	18,421,200	74,279,700	3,804	3,333,840	2,384	67,867
September..	39,476	110,052	25,183	19,722,700	73,767,200	3,836	3,247,381	2,322	70,817
October....	43,170	111,196	25,445	26,731,200	74,253,700	4,144	3,378,739	2,416	75,175
November...	39,395	104,302	23,867	39,586,900	69,418,900	4,473	3,724,305	2,663	70,398
December...	42,342	106,829	24,446	59,146,800	68,136,200	5,223	3,653,778	2,612	74,623
Total.	476,640	1,279,160	292,710	463,110,000	851,797,000	53,956	44,489,183	31,809	855,115

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Fuel and power in the United States, thousands of net tons - continued.

1938	Coal Available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	39,926	106,152	24,291	60,769,400	62,628,500	5,063	3,588,443	2,530	71,810
February...	33,919	94,733	21,678	59,478,300	62,220,900	4,994	3,586,041	2,528	63,119
March.....	33,033	106,679	24,412	52,588,100	62,195,000	4,710	4,001,934	2,821	64,976
April.....	25,539	102,975	23,564	43,989,300	61,208,300	4,317	4,094,802	2,887	56,307
May.....	25,925	98,829	22,616	32,419,100	58,946,300	3,749	3,897,651	2,748	55,038
June.....	25,834	94,472	21,618	24,510,800	57,633,100	3,371	3,741,393	2,638	53,461
July.....	25,360	102,914	23,550	20,854,800	58,255,300	3,246	3,707,537	2,614	54,770
August.....	29,858	106,363	24,340	18,903,200	61,420,700	3,296	3,844,806	2,711	60,205
September..	33,076	98,516	22,543	20,022,600	65,276,000	3,500	3,520,434	2,482	61,601
October....	36,439	101,793	23,293	25,257,800	68,655,600	3,854	3,402,069	2,398	65,984
November...	36,938	98,482	22,536	38,431,900	70,284,400	4,461	3,543,105	2,498	66,433
December...	40,649	102,447	23,433	56,689,700	70,712,400	5,228	3,906,145	2,753	72,073
Total.	386,496	1,214,355	277,884	453,915,000	759,437,000	49,789	44,834,410	31,608	745,777

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Fuel and power in the United States, thousands of net tons - continued.

1939 5/	Coal available, 1/ M net tons	Petroleum production 2/ M barrels	Petroleum production 2/ In terms of coal, M net tons	Natural-gas sales 3/ Domestic and commercial heating, M cubic feet	Natural-gas sales 3/ Industrial uses, M cubic feet	Natural-gas sales 3/ In terms of coal, M net tons	Hydroelectric power 4/ M kw.-hr	Hydroelectric power 4/ In terms of coal, M net tons	Total In terms of coal, M net tons
January....	40,956	102,369	23,540	64,731,700	66,705,300	5,393	3,743,958	2,602	72,491
February...	37,307	93,525	21,402	67,505,000	69,120,300	5,606	3,828,186	2,660	66,975
March.....	37,655	106,766	24,432	60,764,400	68,541,100	5,306	4,451,570	3,094	70,487
April.....	21,706	105,304	24,097	47,714,400	67,492,500	4,727	4,394,578	3,054	53,584
May.....	28,170	110,422	25,268	35,027,800	68,073,100	4,231	4,167,770	2,897	60,566
June.....	30,155	104,745	23,969	24,199,900	64,666,400	3,647	3,737,255	2,632	60,403
July.....	28,804	111,057	25,413	21,159,200	66,509,800	3,598	3,472,798	2,414	60,229
August.....	34,495	81,024	18,541	19,898,800	70,297,800	3,701	3,528,184	2,452	58,189
September..	38,103	103,235	24,763	20,358,100	73,829,500	3,865	3,118,077	2,167	68,903
October....	44,881	114,010	26,089	25,844,200	78,321,000	4,274	3,137,793	2,181	77,425
November...	41,883	111,885	25,603	41,238,400	77,693,500	4,880	3,204,932	2,227	74,593
December...	41,331	115,120	26,343	54,602,100	76,036,700	5,361	3,186,530	2,215	75,250
Total.	425,446	1,264,962	289,465	483,044,000	847,290,000	54,589	44,021,631	30,595	800,095

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Fuel and power in the United States, thousands of net tons - continued.

1940[5]	Coal available,[1] M net tons	Petroleum production[2] M barrels	Petroleum production[2] In terms of coal, M net tons	Natural-gas sales[3] Domestic and commercial heating, M cubic feet	Natural-gas sales[3] Industrial uses, M cubic feet	Natural-gas sales[3] In terms of coal, M net tons	Hydroelectric power[4] M kw.-hr.	Hydroelectric power[4] In terms of coal, M net tons	Total In terms of coal, M net tons
January....	53,448	113,140	25,890	75,497,300	74,398,700	6,151	3,186,889	2,183	87,672
February...	43,109	108,668	24,867	82,466,100	76,849,900	6,537	3,190,044	2,185	76,698
March.....	40,556	120,075	27,477	64,116,200	73,457,700	5,645	3,931,996	2,693	76,371
April.....	34,674	116,045	26,555	51,691,900	70,771,900	5,025	4,548,747	3,116	69,370
May.....	34,246	118,283	27,067	38,833,700	70,121,300	4,471	4,603,651	3,154	68,938
June.....	31,942	111,690	25,553	27,070,400	69,290,900	3,954	4,216,697	2,888	64,342
July.....	34,833	113,244	25,914	23,153,600	70,574,200	3,846	4,159,826	2,850	67,443
August.....	38,317	110,523	25,291	21,252,200	74,864,000	3,944	3,968,158	2,718	70,270
September..	38,194	109,337	25,020	22,545,400	78,144,000	4,132	3,854,995	2,641	69,987
October....	41,123	113,418	25,954	28,783,100	81,606,000	4,530	3,659,176	2,507	74,114
November...	42,014	106,904	24,463	44,715,200	81,673,700	5,186	4,033,890	2,763	74,426
December...	45,354	110,520	25,291	64,674,900	82,395,700	6,035	4,396,558	3,013	79,693
Total.	477,810	1,351,847	309,347	544,805,000	904,148,000	59,456	47,752,627	32,711	879,324

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1/ Bureau of Mines and Bureau of Foreign and Domestic Commerce.
2/ Petroleum Economics Division, Bureau of Mines.
3/ American Gas Association, annual issue of March 1940.
4/ Computations based on production of hydroelectricity for public use, by railroads, and by plants generating energy for own use, as recorded by the Federal Power Commission; do not include certain production for private use.
5/ Preliminary figures for 1939 and 1940

NOTE. - "Coal available" equals production of coal plus imports and minus exports of coal, coke (in terms of coal), briquets, and foreign bunkers, plus or minus change in industrial stocks of pituminous coal.
Petroleum - 1 barrel equals 6,000,000 B. t. u. and 4.37 barrels equals 1 net ton of bituminous coal.
Hydroelectricity - 1 Kw.-hr. has been converted to coal equivalent for the years under review as follows: 1929, 1.69; 1930, 1.62; 1931, 1.55; 1932, 1.50; 1933, 1.47; 1934, 1.47; 1935, 1.46; 1936, 1.44; 1937, 1.43; 1938, 1.41; 1939, 1.39; and 1940, 1.37.
Natural gas - 24,370 cubic feet equals 1 net ton of bituminous coal.

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The following table shows, for 1929-40, inclusive, the relationship of total salaries and wages of employees in the United States, total national income, and total demand for energy. Salaries and wages are shown by separate groups, and total demand for energy is broken down as coal available, demand for all oils, sales of natural gas (as reported by the American Gas Association), and production of hydroelectricity, all converted to terms of coal. The salaries and wages of the manufacturing and transportation groups, indicative of general industrial activity, deserve special attention as these industries are large consumers of energy. Reference should also be made to the table on page 9 showing fuels consumed in manufacturing establishments of the United States in 1939 by geographic divisions. It will be noted that in this table data under "Energy demand" are identical with those in the tables entitled "Fuel and power in the United States" (pages 11 to 23, inclusive), except that "demand for oils" is used instead of "crude petroleum production."

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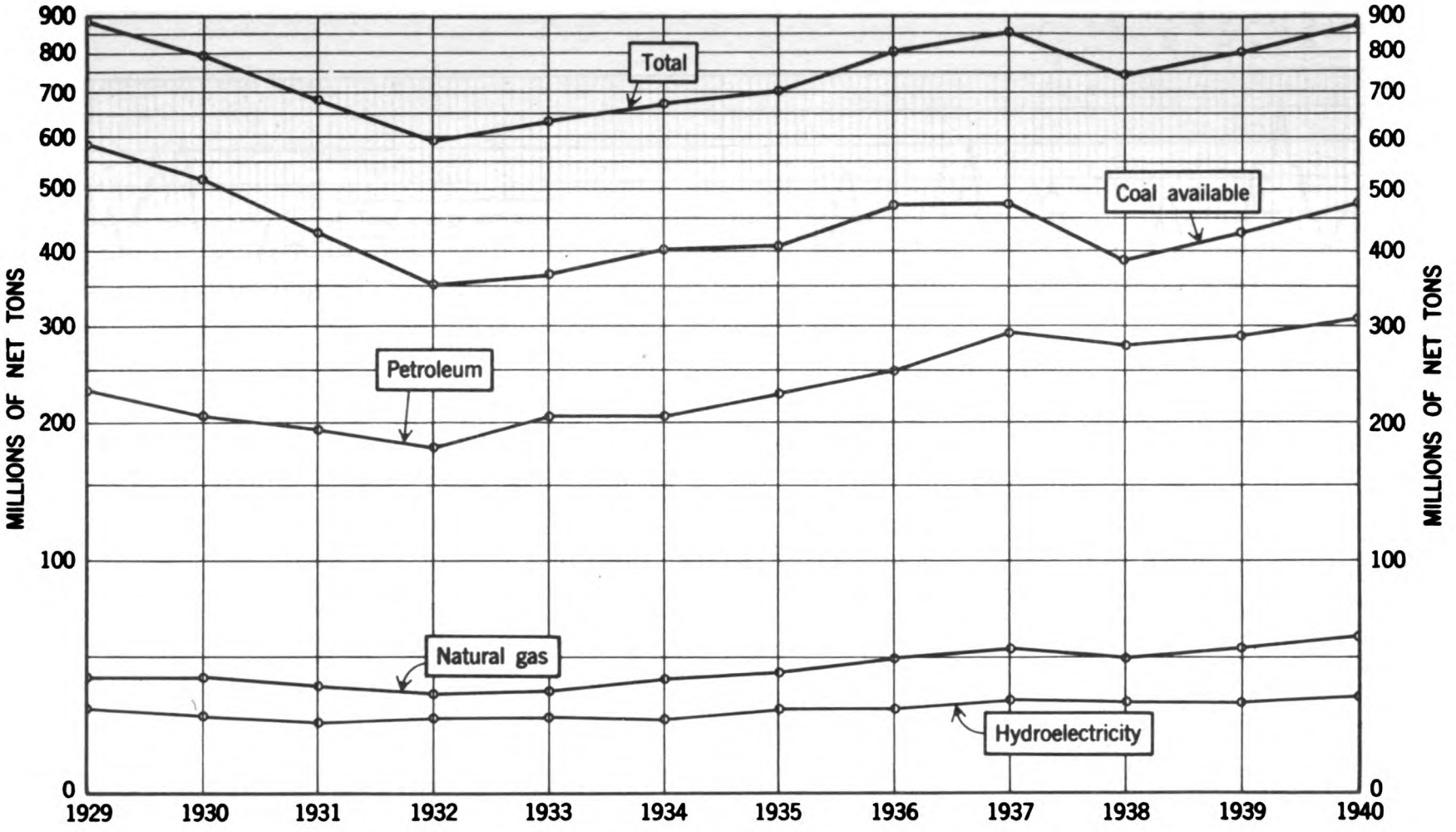

Figure 1.—Energy by kinds available in the United States, in terms of coal, 1929–40.

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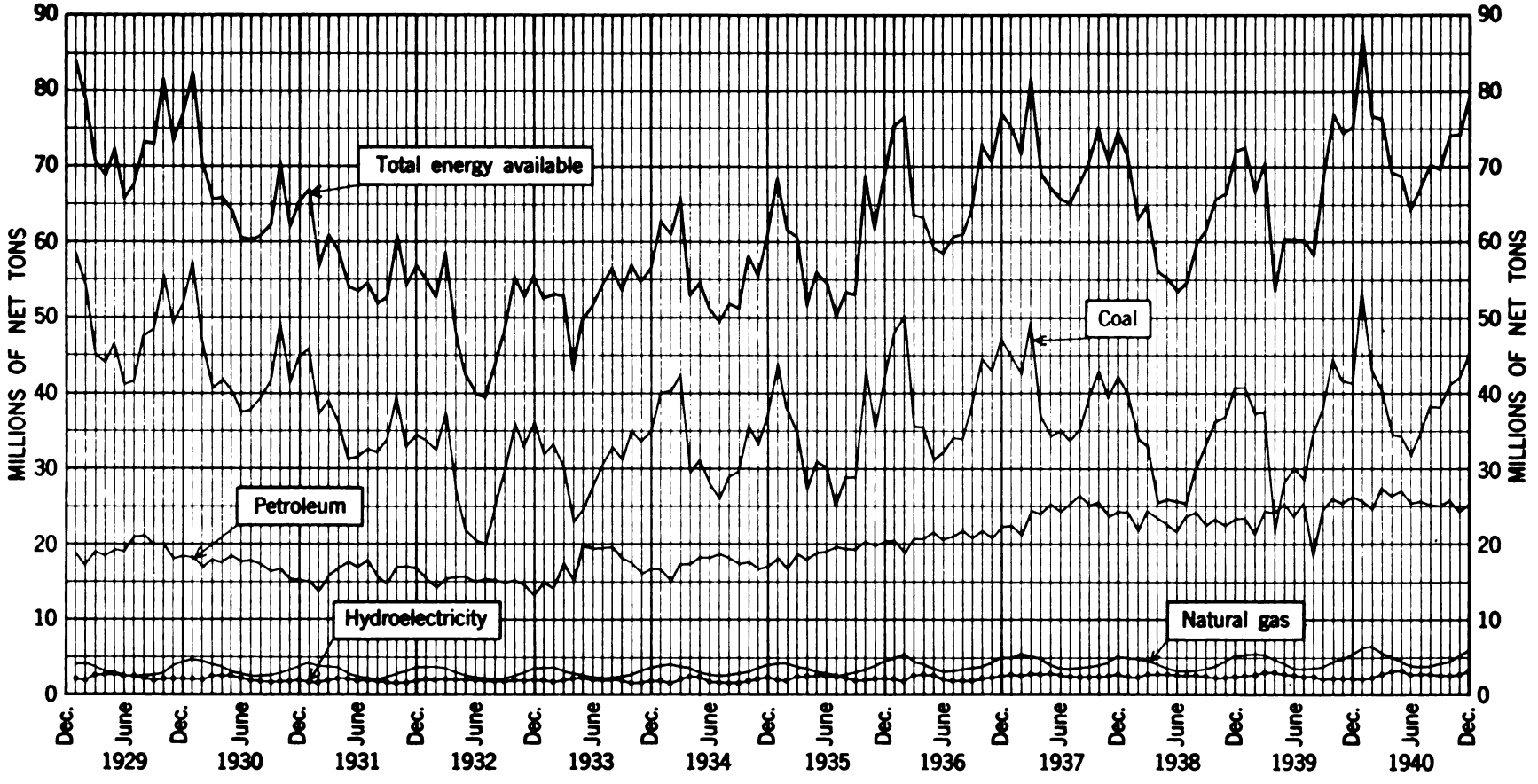

Figure 2.—Fuel and power in the United States, in terms of coal, by months, 1929–40.

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Salaries and wages of employees by industrial divisions, national income, and energy demand by kinds, 1929-40

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
SALARIES AND WAGES,[1] MILLIONS OF DOLLARS												
Agriculture.....	1,284	1,134	847	584	517	558	639	690	794	758	738	745
Mining.....	1,602	1,407	1,027	709	725	952	998	1,132	1,261	1,063	1,081	1,158
Contract construction...	2,947	2,182	1,536	806	481	573	719	1,140	1,403	1,402	1,689	1,907
Transportation...	4,939	4,491	3,770	2,826	2,603	2,840	3,104	3,495	3,825	3,412	3,659	3,838
Power and gas....	656	651	584	483	450	497	540	594	665	668	671	688
Communications...	706	716	640	534	461	492	507	538	606	610	622	652
Trade.....	8,085	7,549	6,576	5,117	4,607	5,171	5,453	6,001	6,818	6,576	6,887	7,265
Finance 2/.....	2,503	2,403	2,138	1,898	1,703	1,764	1,794	1,922	2,035	1,961	1,994	2,049
Government 3/....	4,950	5,078	5,064	4,911	4,400	4,563	4,970	5,401	5,657	5,927	6,197	6,698
Service.....	6,506	6,015	5,179	4,136	3,690	4,157	4,511	5,043	5,615	5,371	5,660	5,937
Miscellaneous....	2,198	2,081	1,797	1,437	1,347	1,457	1,556	1,686	1,860	1,739	1,891	2,003
Manufacturing....	15,870	13,681	10,647	7,447	7,506	9,375	10,564	11,999	14,076	11,602	13,260	15,218
Total.....	52,246	47,388	39,805	30,888	28,490	32,399	35,355	39,641	44,615	41,089	44,349	48,158
NATIONAL INCOME, MILLIONS OF DOLLARS												
Total.....	83,365	68,983	54,277	39,991	42,489	50,346	55,808	65,144	71,436	64,418	70,674	76,035
ENERGY DEMAND, M NET TONS, IN TERMS OF COAL												
Total.....	868,842	796,481	693,990	603,613	627,736	678,360	705,470	802,216	830,071	728,099	792,346	872,815
Coal available...	585,004	518,157	427,114	353,209	368,575	402,954	408,631	473,824	476,640	386,496	425,446	477,810
Demand for oils..	215,126	211,991	206,682	191,190	198,741	210,572	225,103	250,046	267,666	260,206	281,716	302,838
Natural-gas sales	40,666	40,626	37,270	34,223	35,387	40,055	43,242	49,895	53,956	49,789	54,589	59,456
Hydroelectricity	28,046	25,707	22,924	24,991	25,033	24,779	28,494	28,451	31,809	31,608	30,595	32,711

1/ Survey of Current Business, June 1941.
2/ Does not include certain miscellaneous financial institutions which have been included in "Miscellaneous."
3/ Does not include work-relief wages.

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RESOURCES OF ENERGY

With reference to resources of energy and their probable length of life, based upon such data as are available, it may be stated that at the current rate of consumption the coal reserves of the United States are ample for hundreds, if not thousands of years, except for certain high-rank coals that may be exhausted in a few generations. The United States possesses one-half the total world reserves of coal. The life of petroleum and natural-gas resources is more difficult to estimate. According to the best data available, the reserves of petroleum and natural gas in sight are sufficient to last 15 and 30 years, respectively. However, the Bureau has recently estimated that by relatively costly methods of converting coal to oil, the supply of oil might last for centuries. Obviously this would reduce the length of life of the coal reserves. Water-power resources (dependent chiefly upon the sun, topography, and vegetation) may seem to be the most susceptible of measurement; nevertheless, desert areas which were once under water show that in the course of time volcanic action or the convulsions of nature can change the centers of water-power production. According to the Geological Survey of the United States Department of the Interior, the developed water power of the United States on January 1, 1939, was more than 26.0 percent of the world total and its resources about 5 percent. Furthermore, these resources of energy are widely scattered - in general, coal in the East and Middle West, petroleum and natural gas in the South and Southwest, and water power in the West, Southwest, and Northeast.

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